Does humility of project manager affect project success?  
Confirmation of moderated mediation mechanism

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Abstract

Purpose – The philosophy of the conservation resource theory, this paper aims to evaluate the relationship between humble leadership on project success by integrating the mediating role of psychological empowerment and the interacting effect of top management support on the direct relationship (humble leadership and project success), as well as indirect relationships through psychological empowerment.

Design/methodology/approach – Time lag data were gained from 337 persons working in the project-based organization across the information technology industry. Confirmatory factor analysis and structural equation modelling were used in this study.

Findings – By using the structural equation modelling method, the confirmatory factor analysis verified the uniqueness of the variable used in this research. The outcomes exhibited that humble leadership raised project success both directly and indirectly through mediation (psychological empowerment). Furthermore, Top management support was expected to have a moderating effect on the direct but not on the indirect relationship (via psychological empowerment).

Originality/value – This study demonstrates how top management support is essential for the project manager and project team members for the successful execution of the project. Particularly, minimal empirical research examines the interacting effect of top management support on humble leadership and employee psychological empowerment.

Keywords Project management, Psychological empowerment

Introduction

Researchers and professionals have recognized the critical success factors that determine project success over the past few decades (Ahmadabadi and Heravi, 2019; Unterhitzenberger and Bryde, 2019). Leadership support became the essential component of

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all established success factors to project performance (Zaman et al., 2019; Scott-Young et al., 2019), supported by several studies after exploring the impact of the various leadership theories on project success (Müller et al., 2012; Aga et al., 2016). Additionally, just a few reviews investigated the most successful leaders to guarantee the success of the project.

Project of every kind is limited in time, especially from the start to the end of the stated duration (Samset and Volden, 2016; Ul Musawir et al., 2017). This implies for a project manager to transparency and responsiveness to team members, which is only feasible when the project manager nurtures a participation standard. They work more explicitly (Gutermann et al., 2017; Alfes et al., 2013). Under such project managers’ guidance, team members efficiently address their challenges, thereby completing the required objectives on a schedule that ultimately boost project performance by getting the product to the client in good time. Numerous qualities are illustrated, namely, openness, ability to adapt, as leadership creates a valuable relationship with subordinates (Schein and Schein, 2018).

Humble leadership is defined as “to display gracious respect to followers in a variety of ways, like acknowledging their feedback, supporting the delegation of power and asking for suggestions” (Owens and Hekman, 2012). Similarly, Qin et al. (2020) emphasize that a more concerted effort is required to explore the process and boundary conditions for humble leadership, leading to beneficial work behaviors. This is important because humble project managers inspire their workers to execute a project effectively and investigate the connection between a humble manager and project performance.

We hypothesize psychological empowerment as the mediating variable between humble leadership and project success. Psychological empowerment is rooted in four dimensions: meaning, competence, self-determination and impact representing a person’s attitude toward their work (Spreitzer, 1995). Earlier literature has established the theoretical link between humble leadership and psychological empowerment (Chen et al., 2018). The project managers’ power-sharing behavior is closely related to followers’ intrinsic motivation toward mutual goal accomplishment and eventually increases project efficiency (Yu et al., 2018; Hu et al., 2018). Employees who feel respected and support at the workplace are expected to perform well, especially in a project-based organization (Miao et al., 2020; Shanock and Eisenberger, 2006; Tabassi, 2016). Ali et al. (2020) asserted that a humble project manager is likely to provoke followers through psychologically empowering by accepting followers’ capability, commitment and acknowledgment of their feedback to achieve the project’s objectives.

Besides, we suggest top management support as the initial layer under which a humble project manager’s impact varies on project success. Top management support is an environmental variable, representing main decision-makers, including the chief executive officer, chief operating officer, chief financial officer, heads of business division and vice president (Islam et al., 2009) taken as moderator of the relationship among leadership outcomes. Key stakeholders in a project are top management, mostly because of their role in developing and designing the project strategies and supporting the project managers to warrant its effective execution (Ahmed et al., 2016). The interacting effect of top management support plays a crucial role in leadership and project outcomes (Agarwal et al., 2020). A modest project manager, including professional leadership like leadership quality, could not successfully achieve the project unless the senior management supports them. Existing theories and research indicate that both the project manager and upper management support are simultaneously crucial for a project’s high performance (Bonner et al., 2002) and psychological empowerment (Yogalakshmi and Suganthi, 2020; Chiang and Hsieh, 2012). However, the need for top management support at different phases of the project was established in previous studies (Liu et al., 2020). Nevertheless, researchers rarely
addressed project managers’ reciprocal position and top management support in project performance (Maqbool and Sudong, 2018; Barth and Koch, 2019; Fernandes et al., 2020) and psychological empowerment (Gözükara et al., 2019). Top management is responsible for policy formulation and must provide specific knowledge and expertise about the organizations’ prevalent contexts.

Throughout the above discussion, the present study introduces and empirically evaluates a theoretical model indicating the connection between humble leadership and project success with psychological empowerment as mediating while top management’s support moderates this impact. Theoretically, our research framework is steeped in the conservation of resource theory (Hobfoll, 1989). This theory’s elementary concept is that people aim to build, secure, sustain and maintain resources. Resources are those objects, circumstances, traits or energies prized by the people (Hobfoll, 2001) and what is more devastating to a person is the depletion of those resources (Hobfoll, 1989). Conservation of resource theory implies that leaders act as an essential resource that further generates and conserves resources for the organization by allowing effective use of organizational resources (employees psychological empowerment) (Mao et al., 2019). Implementing this theory’s notion to the conceptual model of the current study, we believe that project managers, by their humility characteristic, secure the optimum usage of resources in the context of an appropriate employee’s psychological empowerment mechanism to gain additional resources by successfully finishing a project. Further expanding on the concept of “caravans passageways” in the conservation of resource theory (Hobfoll, 2011a), we submit that a humble project manager could not use and develop the organizational resource until he/she is supported with an atmosphere to use his/her expertise. Top management support functions as a resource caravan passageway (i.e. a mechanism that helps organize, filter and distribute resources), which provides a favorable organizational atmosphere that encourages humble project managers to accomplish and enable the psychological empowerment cycle and project success.

**Literature review and hypothesis development**

**Humble leadership**

Humble leadership can be described as an interpersonal quality of a leader expressed in three main features: readiness to view oneself correctly, recognize others’ abilities and open innovative ideas and opinions (Owens and Hekman, 2012). Realized as a relational attribute, humble leadership is a function of a leader recognized by adherents across social interactions. Previous literature identified the behavioral characters of humble project managers. For example, humble leadership shows a capacity to evaluate oneself without detrimental or optimistic emphasis, signaling that the leader has had a reliable, non-defensive and sensible self-view (Ding et al., 2020). Humble leaders appreciate subordinates’ interests and contributions and open their doors to others (Lin et al., 2019).

Humble leaders are open to innovative ideas, guidance and knowledge from the assistants that demonstrate their receptiveness to others, fostering an atmosphere of cohesion, loyalty, innovation and achievement (Owens et al., 2013). Humble managers give their members, displaying their social behavior toward followers, seeking advice and supporting subordinates to eliminate the power distance (Walters and Diab, 2016). Project managers’ humility fosters a safe environment for workers who can freely discuss their issues (Carnevale et al., 2019). Conversely, humble leaders offer a more progressive approach categorized by the exhibit openness, welcoming behavior, listening and respecting the followers, pursuing direction and encouraging subordinates contributing to the elimination
of power hierarchy (Carnevale et al., 2019). These interventions are supposed to have a beneficial impact on the morale of workers and project success.

Project success
Project management is primarily related to the engineering and construction sectors. The criteria for project success are objective, well-accepted and achievable. Typically, succeeding the generic triangle notions of scope, cost and time (Ahmed et al., 2016). It is now defined that project success is about achieving the project within the defined scope, time, cost, retention of user satisfaction, acceptance by stakeholder, marketing and future project opportunities (Ika et al., 2012). Research founds many factors and indicators of project success. Müller and Rodney Turner (2010) identified that a higher degree of customer approval or defined budget projects and stakeholder satisfaction are essential to project success.

Past studies have confirmed the value of project delivery within the cost, time, quality and friendly relations stakeholder relationship (Maqbool and Sudong, 2018). Yu et al. (2018) emphasize project execution’s significance within the various scope, time, cost and expectation of stakeholder and customer satisfaction. PMI (2013) examines two project success dimensions: project accomplishment within scope, cost, time, quality and stakeholder satisfaction. Aga et al. (2016) explain the success elements as the project’s importance offers customer and stakeholder satisfaction, marketing benefits to an organization. Based on the above, we can define that project success as affecting: project achievement within the scope, time, cost and quality; customer and stakeholder satisfaction; and attainment of project objectives.

Humble leadership and project success
Leadership behavior continually plays an essential role in project effectiveness and productivity (Tabassi, 2016; Podgórska and Pichlak, 2019). Leaders help the team breach boundaries to build relationships, support one another, scout for the necessary information to complete objectives and achieve success (Gumusluoğlu and Ilsev, 2009; Dust et al., 2018). Owens and Hekman (2016) revealed that the leaders who clarify the project’s purpose to their team members increased its performance. Some scholars specified that the leadership style features affect project performance (Turner and Müller, 2005; Hassan et al., 2017; Chaudhry et al., 2019). In this regard, a humble leader has been found to promote project effectiveness (Ali et al., 2020; Brière et al., 2015). Humble leaders exhibit individualized consideration behavior and influence the subordinate’s favorable reaction, resulting in the employee’s high performance (Carnevale et al., 2019; Ding et al., 2020). Humble leaders aim to transform individuals to exceed beyond the status quo to improve the ability to innovate and adapt in the team environment (Rego et al., 2019; Owens et al., 2013). Humble leaders also develop particular aspects of the teamwork process such as conflict resolution, team communication and cohesion (Ou et al., 2018; Gonçalves, 2017). For example, a leader with consideration behavior promotes both the official and non-official communication routes among team members, whereas a leader with transactional behavior develops only tight and official communication (Schein, 2014). Therefore, humble leadership improve interpersonal relationships, granting freedom and autonomy to the staff, giving importance to every team member. Inspired by the degree of freedom, the team members consider themselves key drivers of project success (Ali et al., 2020), who may work to their full potential to accomplish a project.

Arnold (2017) revealed that the role of a leader could be viewed as a resource that generates further support for the organization in the form of positively developing followers, the phenomenon referred to as the conservation of resource (Hobfoll, 1989) that has become

Moderated mediation mechanism
vital in the field of organizational psychology in recent times. The core concept of the resource model’s conservation is that individuals aim to develop, preserve, maintain and keep resources. Resources are certain things, conditions, features or capabilities of individuals (Xanthopoulou et al., 2007). Moreover, what is more, harmful to a person is the depletion of specific resources (Hobfoll, 2014). The model also shows that those with a credible resource pool are the most “secured resource” and continue to grow their reservoir of resources (Hobfoll, 2001). We assume humility is a valuable personal resource of a leader who has engaged in enhancing followers’ faith, allowing them to develop an environment of teamwork and collaboration contributing to project success (i.e. resource gain). The prior arguments reveal that project managers’ humility will improve team members’ performance, potentially contributing to a successful accomplishment of a project. Therefore, it is proposed that:

\[ H_1 \] Humble leadership has a positive relationship with project success.

The mediating role of psychological empowerment

Psychological empowerment is a management technique used to improve efficiency and mainly consists of four processes: meaning, competence, self-determination and impact. Meaning relates to arranging employees’ work roles with ones’ reliance, morals and standards (Macey and Schneider, 2008). Competence is the impression of an individual’s self-efficacy about the practical completion of assignments (Hullman et al., 2010; Abbas et al., 2019). Self-determination corresponds to the freedom a person enjoys in choosing his/her work position (Jeno et al., 2019; Taylor et al., 2019). Impact means the degree to which employees believe how one’s actions at work make a significant difference in achieving a job’s aim (Singh Sanjay and Singh Ajai, 2019; Li et al., 2018).

Past research findings support the humble project manager’s position in the psychological empowerment cycle throughout its dimensions. First, a humble project manager represents a common conceptual construct of those with the knowledge and experience to build a collaborative, enthusiastic environment for the team (Walters and Diab, 2016; Ou et al., 2016), which helps subordinates to identify and attain project objectives. Second, a humble project manager supports to improve the significance of the team members by assisting an individual in realizing the value of his/her job role that enables the employees to understand the role clarification and has an effect on organizational results (Li et al., 2016; McElroy et al., 2014; Day et al., 2004; Reinholt et al., 2011). Third, a humble project manager who asks team members for suggestions eliminates bureaucratic constraints and strengthens his/her followers (Chiu et al., 2016; Chen et al., 2018), which is highly connected to the self-efficacy component of psychological empowerment. Fourth, a humble project manager appreciates followers’ effort and allows the subordinates with a sense of autonomy by power-sharing (Jeung and Yoon, 2016; Hu et al., 2018). This enables team members to make their own decisions to solve the issues and carry out tasks (Bang and Midelfart, 2017; Arslan et al., 2020). Besides, a successful project manager is vital to improve team engagement by creating a constructive mindset and environment contributing to the project’s completion (Aga et al., 2016), which might be provided by a humble project manager. Furthermore, the shared encouragement, collaboration and sharing of humble project managers’ feelings stimulate followers with an evident passion for accomplishing collective objectives and creating team cohesion (Owens and Hekman, 2016).

Earlier studies have also demonstrated the substantial effect of efficient employee’s psychological empowerment on project success. According to Ergeneli et al. (2007), the
competence component of psychological empowerment introduces team members to a target-setting framework that requires action planning to find ways to achieve these targets, improve problem-solving skills and motivate the team toward achieving the objectives. Alignment of team members’ work roles is expected to understand better their and others’ respective roles and duties (Kim and Kim, 2013), significantly impacting project success (Aga et al., 2016). The self-determination process involves enhancing team members’ interpersonal skills and work autonomy, including mutual supportiveness, communication and information sharing (Shuffler et al., 2011). Therefore, the bond between the team members is reinforced in terms of having a particular mission and priorities (Carson et al., 2007; Jarvenpaa et al., 1998), which mobilize a combined effort to achieve the set objectives.

Psychological empowerment is an intermediate mechanism that considers team members to recognize the significant issue, create an appropriate solution, participate in problem-solving and action planning, render the team members responsive to challenging tasks and generate novel solutions (Klein et al., 2009). Frequently, the project team is working autonomously outside the organizational hierarchy. This indicates that psychological empowerment in terms of meaning, competence, self-determination and impact can lead to project success by developing the relevant attitudes, values, problem-solving techniques and interpersonal and group methodologies necessary for the successful delivery of the project (Ali et al., 2020; Khan et al., 2020).

The above discussion suggests that a humble project manager leads the team members to achieve a project by inducing a practical approach to psychological empowerment. Employee empowerment is also a process that demonstrates the effect of humble leadership on project success. Our claim for the mediating role of psychological empowerment is also embedded in the principle of resource conservation (Hobfoll, 2011b), which proposes that individual or job-related resources encourage the formation and retention of more resources. While having a constructive resource gain approach to the idea of a humble leader, we contend that through their humility, ensure the optimal use of organizational resources (employees) by moving them into an employee’s psychological empowerment process. That, in turn, encourages them to establish more resources in the term of project success. Based on the above discussion, we propose the following hypotheses:

- **H2a.** Humble leadership is related to psychological empowerment.
- **H2b.** Psychological empowerment is related to project success.
- **H2c.** Psychological empowerment mediates the association between humble leadership and project success.

The moderating role of top management support

Top management corresponds to the organizations’ main decision-makers, including a chief executive officer, chief administrative officer, chief financial officer, department heads, chairman and vice-chairman (Boonstra, 2013). Superior management is a primary stakeholder of a project because of its responsibilities in project design, implementation, execution and project management assistance for effective project delivery (Kwak and Anbari, 2009). Nuscheler et al. (2019) argued that superior management support is a success driver for projects. Drawing on the dogmas of conservation of resource theory (Hobfoll et al., 2018), the top management support can be defined as resource caravan passageways leaders’ functioning environment that supports the leaders to use and create the organizational resources efficiently effectively. To meet the needs for esteem, objectives, budgetary decisions, human resource and technical resources (Chemmanur et al., 2018;
Dong et al., 2009). Senior management support might increase project managers’ comfort within the organization (Zwikael, 2008; Ahmed et al., 2016). Top executive effectiveness of a project in different aspects, including appointing project managers, establishing a collaboration culture, allocating project resources, strategic planning and developing the project procedures (Ahmed et al., 2013; Jarvenpaa and Ives, 1991). Top executives communicate with the project managers and team members to interact with various projects (Kanwal et al., 2017). Besides, top management assistance plays a significant role in employee empowerment (Gözükara et al., 2019; Kundu Subhash et al., 2019). Upper management actions such as sharing the objectives, interacting policies and team empowerment are positively tied to the project manager and project team (Zwikael and Meredith, 2019; Elbanna, 2013). Therefore, we suggest that the leaders’ humility is not enough to empower a team or effectively execute a project unless/she is supported by an organization’s upper management.

Top management transfers power to project managers and considers their inputs that created the working atmosphere (Agarwal et al., 2020; Gopalakrishna-Remani et al., 2019). Such cohesive enactment helps the humble project manager and team members improve their performance (Owens and Hekman, 2016), a vital prerequisite for completing the project. This implies that a humble project manager will keep jurisdiction only (core characteristics of humble leadership) when an organization’s top executive would sufficiently empower him. Similarly, demanding performance-related evaluation from the team members is another crucial pillar of a humble project manager that has been important for psychological empowerment and project success. A humble leader will only achieve this excellence if the organization’s environment is cooperative, less authoritarian and collective. This is primarily the top executive of an organization, which often develops a culture of the organization. It is aligned with the earlier research that the hurdles eliminated by upper management to increase project performance and execution (Hermano and Martin-Cruz, 2016). Top management supports developing a fostering and encouraging the quick learning atmosphere (Boone et al., 2019). The impression of a secure environment promotes the project manager as a humble project manager who acknowledges the shortcomings, faults and shows teachability toward uncertainty (Owens et al., 2013). Empower team members to feel psychologically comfortable articulating and sharing fresh ideas on trial and error approaches (Wang and Zhu, 2018). All such reinforcement is based on enhancing the productivity of the team members with new expertise and identifying prospects for development and offering a creative solution to problems confronting the workplace by helping the organization to compete in a dynamic business setting (Anderson et al., 2004; Cheng and Yang, 2019). Following our arguments, superior management support has been shown positively to have a beneficial impact on the project manager and team member and any challenges involved with the development phase will address more effectively because any problems link to internal reasons fix immediately and complete the project effectively.

Compatible with the conservation of resource theory and precisely the concept of “resource caravan passageways” (Hobfoll et al., 2018), the capability of individuals to create and retain their “pool” of resources (or contrarily, to lose their resources) mostly depends on factors beyond their influence (Hobfoll and De Jong, 2014). Caravan passageways are the environmental conditions that support, enhance, encourage and secure the resources of individuals, segments or groups of workers and organizations as a whole or empowered individuals or group’s resource reservoirs (Hobfoll, 2011a). Indeed, excellent management support in reconciliation can be considered as “resource passageways” that supply human resources, team decision-making, dispute resolution and operational resources in the organization. Humble leadership and team members believe that top management support
is accorded to resources, perceiving more resources (psychological empowerment and project success) at the workplace. In the context of these claims, we suggest that top management support significantly moderates the connection between humble leadership and project success, humble leadership and psychological empowerment and indirectly to project success:

H3a. Top management support moderates the relationship between humble leadership and project success, such that higher management support strengthens the connection.

H3b. Top management support moderates the relationship between humble leadership and psychological empowerment, such that higher management support strengthens the connection.

H4. The indirect effect of humble leadership through psychological empowerment on project success is expected to be significant for those with high top management support and insignificant for those with low top management support (Figure 1).

Methodology
This present study examined the relationship between humble leadership and project success while considering the mediating roles of psychological empowerment and the moderating role of top management support among employees working in project-based organizations within Pakistan’s IT sector. A broad spectrum of IT-based projects has been started over the past decade (Marchewka, 2016). Emerging technologies’ lifespan is relatively shallow due to the fierce competition associated with new adversaries and constant improvement by existing IT organizations that often concentrate on disruptive technology and adopt new technologies that have altered people’s life choices (Grillitsch et al., 2019). As customers try new solutions to better their lives, ensuring project success is a significant obstacle for IT organizations. Therefore, in any IT-based project organization,
leadership is essential, particularly for maximizing the progress of IT projects in an era of rapid growth and transitions.

A systematic protocol for gathering comparable and reliable data was implemented for this research. Several project-based workplaces were accessed to address the intent of research to target respondents explicitly working on projects. The judgment sampling technique was used to target the participants. In judgment sampling, the respondents are selected by the researchers when they fulfill the researcher’s criteria according to the context of the research. The investigator specifies the characteristics for the sample (e.g. those explicitly working on projects); hence, the researchers select the most suitable sample for representing the population. To select the maximum representative sample, the organizations’ senior management was contacted to explain the research aims and collect data in the most appropriate manner. After that, it was emphasized that the selected respondents should be those who are currently working on active projects. Hence, the senior management provided the researchers access to those respondents specifically working on projects. This approach helped us select a sample representative of the project-based organization, and hence we expect that the results would be generalizable specifically to project-oriented contexts. The time-lagged approach was implemented to obtain data at two-time intervals with a time lag of 2 months to reduce the possible common method bias. At the first time interval (T1), data on demographics (age, gender, qualification and experience), humble leadership and top management support were obtained. At the second time interval (T2), data regarding psychological empowerment and project success were collected from the same set of respondents who had responded to the survey at T1. A total of 550 questionnaires were distributed in four leading IT companies operating in Pakistan, engaging in seven development programs in natural resources production, civil construction consultation and health-care. These programs facilitate the creation and reinforcement of renewable energy and natural resources infrastructure, software development, sustainable building architectural construction design, network infrastructure and support in e-commerce and employee training to understand modern software technologies and techniques. There were 23 ongoing projects under these programs. At the first time interval (T1), 435 from a total of 550 questionnaires were returned. Follow-up data collection was performed two months later. Surveys related to the remaining variables (psychological empowerment and project success) were distributed among only those 435 respondents who had responded to the survey at T1. The response rate from the follow-up survey was quite positive and 390 questionnaires were returned, out of which 53 incomplete questionnaires were discarded, constituting the final sample size of 337 respondents. The final response rate was 61.2% that contemplated high for the Asian context such as Pakistan.

**Measures**

The instruments for focused frameworks were adopted from past studies. All variables gauged on a five-point Likert scale in present research range from strongly disagree (1) to strongly agree (5). Humble leadership was assessed with an alpha reliability of 0.92 on the 9-items scale established by Owens et al. (2013). A 12-item scale developed by Spreitzer (1995) with an alpha reliability of 0.92 was calculated for psychological empowerment. Top management support has been assessed to use the 6-item scale established by Islam et al. (2009) with an alpha reliability of 0.89. In total, a 10-item scale developed by Turner and Müller (2005) with an alpha reliability of 0.94. Job experience, gender, age and educational level have been demonstrated to influence project success and should be included as control variables (Aga et al., 2016) (Table 1).
Data analysis
Analysis of data was completed using SPSS 23 and AMOS 23. The analysis is conducted in two steps: confirmatory factor analysis (CFA) and structural model testing. CFA is a preliminary phase in the data analysis procedure to determine that hypothesized predictor variables encompass the evaluated items (Klein, 2015). A structural equation model (SEM) is used to check the hypothesizing relationships (Jöreskog, 1993).

Confirmatory factor analysis
CFA was performed to decide if the proposed four-factor model matches the data well. The CFA results indicate good fitness for the model ($\chi^2 = 969.69$, df = 623, $\chi^2$/df = 1.556, $p < 0.001$, CFI = 0.95, TLI = 0.95, SRMR = 0.03, RMSEA = 0.04). The standardized factor loadings were larger than 0.7. Next, the four latent variables were assessed for composite reliability (CR), convergent validity and discriminant validity. The CR values for all the constructs were greater than 0.9, indicating outstanding internal consistency (Fornell and Larcker, 1981; Bagozzi, 1983). Convergent validity was tested by using the values of the average variance extracted (AVE). AVE values should be greater than 0.5 to attain convergent validity among the study constructs (Sarstedt et al., 2016). The entire constructs’ AVE values were larger than 0.5, verifying that there is no convergent validity issue between these constructs. Discriminant validity was tested, ensuing the Fornell–Larcker approach (Fornell and Larcker, 1981). The benchmark was attained subsequently. The square root of the AVE value of whole constructs was greater than the correlation among all the constructs given in Table 2 (The square root of AVE is given in diagonal with bold letters). Furthermore, to test for the possible common method bias, we conducted Harman’s single factor test (Podsakoff et al., 2003). It was seen that the variance explained by a single factor was 23.21% of the variance explained less than 50% (Shah Syed et al., 2019), thus depicting that common method bias was not a serious issue in the context of current research.

Structural model testing
The SEM outcomes of direct paths for the hypothesized model are represented in Table 3. The analysis results showed a strong positive link between humble leadership and project success ($\beta = 0.16$, $p < 0.001$), supporting $H1$. $H2a$ was also accepted as humble leadership was established to be a significant predictor of psychological empowerment ($\beta = 0.12$,

<table>
<thead>
<tr>
<th>Measures</th>
<th>Item</th>
<th>Frequency</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>238</td>
<td>70.6</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>99</td>
<td>29.4</td>
</tr>
<tr>
<td>Age (years)</td>
<td>20 to 30</td>
<td>79</td>
<td>23.4</td>
</tr>
<tr>
<td></td>
<td>31 to 40</td>
<td>80</td>
<td>23.7</td>
</tr>
<tr>
<td></td>
<td>41 to 50</td>
<td>96</td>
<td>28.5</td>
</tr>
<tr>
<td></td>
<td>Above 51</td>
<td>82</td>
<td>24.3</td>
</tr>
<tr>
<td>Education</td>
<td>Bachelors</td>
<td>256</td>
<td>76.0</td>
</tr>
<tr>
<td></td>
<td>Master</td>
<td>49</td>
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<tr>
<td></td>
<td>Diploma</td>
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<td>9.5</td>
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<tr>
<td>Work experience</td>
<td>Less than 5 year</td>
<td>28</td>
<td>8.3</td>
</tr>
<tr>
<td></td>
<td>5 to 10 years</td>
<td>112</td>
<td>33.2</td>
</tr>
<tr>
<td></td>
<td>11 to 15 years</td>
<td>103</td>
<td>30.6</td>
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<tr>
<td></td>
<td>16 years and above</td>
<td>94</td>
<td>27.9</td>
</tr>
</tbody>
</table>

Table 1.
Demographic profile of respondents
Concerning $H2b$, the outcome indicated a statistically significant psychological empowerment ($\beta = 0.19, p < 0.001$) with project success; hence it was accepted. It must be noted that while the controls were insignificantly associated with project success, the relationships between the study variables were not affected by those results.

To investigate further specifically at the indirect impact in $H2c$, we adopted recommendations from Preacher et al. (2007) and performed the bootstrap analysis. According to Wang et al. (2017), the common estimations of indirect effects typically do not adopt the standard recommendation. They can result in bias and the bootstrap method provides the most reliable confidence intervals for the indirect effect estimate. Bootstrapping tests are important as they determine when the mediated impact distribution of sampling is skewed away from 0 (Shrout and Bolger, 2002). We used 5,000 bootstrap samples to find 95% bias-corrected bootstrapped confidence intervals (CIs). The top and lower bound outcomes exclude 0 for psychological empowerment, which means that conventional standards render them significant. The bootstrap results show a significant mediating effect of psychological empowerment in the relationship between humble leadership and project success ($\beta = 0.022, SE = 0.013, p < 0.05, 95\% \text{ CI } [0.002, 0.05]$). It should be noted that there was also a significant direct connection between humble leadership and project success, implying that psychological empowerment partially mediates the relationship between humble leadership and project success.

### Table 2.
Mean, standard deviation, validity and correlation

<table>
<thead>
<tr>
<th>CR</th>
<th>Mean</th>
<th>SD</th>
<th>AVE</th>
<th>PE</th>
<th>PS</th>
<th>HL</th>
<th>TMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE</td>
<td>0.93</td>
<td>3.8</td>
<td>0.79</td>
<td>0.55</td>
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<tr>
<td>PS</td>
<td>0.94</td>
<td>3.6</td>
<td>0.84</td>
<td>0.64</td>
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<tr>
<td>HL</td>
<td>0.92</td>
<td>3.6</td>
<td>0.77</td>
<td>0.58</td>
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<tr>
<td>TMS</td>
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<td>0.78</td>
<td>0.58</td>
<td>0.15</td>
<td>0.19</td>
<td>-0.06</td>
</tr>
</tbody>
</table>

**Notes:** Variances extracted are on the diagonal, correlations are off-diagonal. **$p < 0.01$** (two tailed). CR = Composite reliability; HL = Humble leadership, PE = Psychological empowerment, PS = Project success and TMS = Top management support

### Table 3.
Structural equation model path analysis results

<table>
<thead>
<tr>
<th>Path</th>
<th>Coefficient</th>
<th>SE</th>
<th>t-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Controls</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>0.004</td>
</tr>
<tr>
<td>Education</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>-0.029</td>
</tr>
<tr>
<td>Work experience</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>-0.09</td>
</tr>
<tr>
<td>Gender</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>0.08</td>
</tr>
<tr>
<td><strong>Main effects</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Humble leadership</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>0.16</td>
</tr>
<tr>
<td>Psychological empowerment</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>0.19</td>
</tr>
<tr>
<td>Humble Leadership</td>
<td>$\rightarrow$</td>
<td>Psychological empowerment</td>
<td>0.12</td>
</tr>
<tr>
<td>HL_X_TMS</td>
<td>$\rightarrow$</td>
<td>Project success</td>
<td>0.16</td>
</tr>
<tr>
<td>HL_X_TMS</td>
<td>$\rightarrow$</td>
<td>Psychological empowerment</td>
<td>-0.069</td>
</tr>
</tbody>
</table>

**Notes:** $^* p < 0.05$; $^{**} p < 0.01$; $^{***} p < 0.001$. SE: Standard error, HL_X_TMS: interaction term of humble leadership and Top management support
Moderated mediation
We adopted Model 8 using the PROCESS method to evaluate H3a, H3b and H3c and conducted what has been recognized as moderated mediation or conditional process analysis (Preacher and Hayes, 2008; Preacher et al., 2007). A moderated mediation model is categorized by the mutual intervention of a moderator (in this case, top management support), which influences the degree of interaction between two other variables (“humble leadership and psychological empowerment” and “humble leadership and project success” in the current research) while taking into account a mediating variable (psychological empowerment). As illustrated in Table 2, humble leadership’s main effect on project success was significantly moderated by top management support ($\beta = 0.16, p < 0.001$); hence, $H3a$ was accepted. For descriptive purposes, the project success was plotted against the humble leadership in Figure 2, separately for high and low top management support (1 SD below and 1 SD above the mean, respectively). The results further revealed that top management support did not significantly moderate the relationship between humble leadership and psychological empowerment ($\beta = -0.069, p < 0.12$). Moreover, as the relationship between humble leadership and psychological empowerment was not moderated by top management support, humble leadership’s indirect effect on project success mediated through psychological empowerment was also not moderated by top management support. In other words, no significant conditional indirect effects were found moderated by top management support. Hence, $H3b$ and $H4$ were rejected.

Discussion
The current study establishes the association between humble leadership and project success by incorporating resource theory conservation while exploring the mediating moderating process. The results revealed that top management support interacts with humble leadership and project success to strengthen their relationship. The study outcomes approved some of the proposed hypotheses and provided evidence that all the variables were significantly linked with project success. However, it was seen that top management support did not moderate the relationship between humble leadership and psychological empowerment. Hence, humble leadership’s indirect relationship with project success mediated through psychological empowerment was not conditional upon the top management support. Only the direct relationship between humble leadership and project support was seen to be moderated (strengthened) by top management support. A humble project manager might inspire and psychologically empower subordinates toward the holistic faith in project performance marked by stakeholder profitability, effectiveness and

![Figure 2. The moderating role of top management support between humble leadership and project success](image-url)
reward. This study’s findings show that humility would be necessary for the project manager to execute the project effectively. This research follows the earlier studies (Brière et al., 2015). Moreover, the present results also contributed to filling the gap identified by past researchers. The previous literature and empirical studies did not sufficiently emphasize the project managers’ leadership role in project success (Yu et al., 2018; Podgórńska and Pichlak, 2019).

The findings of the study have also verified the strong correlation between psychological empowerment and project success. The result suggests that the four components in psychological empowerment, meaning, competence, self-determination and impact, can create a dedicated and strongly motivated team (Spreitzer, 1995). This study reinforces the past argument that through a mechanism of employee psychological empowerment, organizations and project managers can raise knowledge across team members about the project goals, functions and obligations, social engagement and problem-solving skills that eventually impact project success (Ali et al., 2020; Khan et al., 2020). Moreover, psychological empowerment was determined to mediate the impact of humble leadership on project success partially. This implies that humble leadership mainly relies on a positive psychological empowerment cycle when attaining project objectives. Previous studies identified that decision-making participation is a strong determinant of psychological empowerment (Dust et al., 2018). Findings of previous studies revealed that the degree to which employees have the freedom to participate in decision-making for solving problems determines the level of empowerment is positively related to the level of success in an organization (Wang et al., 2019).

This research also affirmed the interacting impact of top management support on the connection between humble leadership and project success. These findings keep up with the prior research that senior management has an interacting effect on the association between the project manager and project performance (Kanwal et al., 2017). This outcome showed that the project manager’s humility brings the senior executive support from the organization’s highest ranks for project success. The project manager has to be eager to receive support from the top managers to effectively execute the project because top management support can promote or inhibit performance and success. Contrary to this study’s expectations, the hypothesized moderating effect of senior management support on the relationship of humble leadership and psychological empowerment was not supported in this research. A possible explanation for this unexpected result might be the Asian culture of management and leadership. Findings of a study by Mokhber et al. (2018) indicated that top-level managers did not believe in participatory leadership. Some researchers suggested that psychological empowerment has a different meaning in Asian culture (Saleem Muhammad et al., 2019). They described that participation among Asian top management is mostly perceived to achieve harmony in groups rather than improving the decision’s quality. Based on the study of Abbas et al., 2014) on the relationship of culture and leadership in Asia, it has been identified that Asian managers used autocratic leadership, who make decisions without much participation from their followers. As Kanwal et al. (2017) suggest, top management support is not a significant predictor of psychological empowerment. We advance the project literature by offering that the positive relationship between humble leadership of project managers and employees’ psychological empowerment exists without much influence from the top management. These are exciting findings as they highlighted the role of psychological factors in project success and indicated that if project managers exercise humble behavior, psychological empowerment can improve and lead toward better project performance despite top management support playing a secondary role. Such issues have not been highlighted in the extant literature
extensively, hence this study fills the space in literature by providing further evidence of how humble leadership influences the psychological factors that are critical for project success.

**Practical implications**

For professionals, these findings have important implications. Initially, as a humble project manager enhances project success, it is essential for IT projects to choose managers who exhibit modest conduct at the workplace. Perfect humble leadership selection is strongly dependent on judgments regarding humble leadership characteristics in new applicants as a project manager. Such qualities include openness, teachability, accepting mistakes, encourage followers to provide feedback on workplace solutions, remove power distance (Owens and Hekman, 2012). Appreciate followers’ skills by supporting the corporate environment, which is a real sense of humility (Li et al., 2020). Humility can be erudite in the organizational setting; training is pivotal to provoke humility in project managers.

Moreover, several methods are used in project managers’ training to transform humble leadership (Carnevale et al., 2019). First, train project managers to nurture an atmosphere of appreciation to followers. Second, the support followers’ contributions and third, listening attentively to problems raised by team members. Throughout facts, while team members commit mistakes, the team leaders’ strategy will be forward-looking rather than judging just past results. Besides, project managers may share knowledge, add followers in decision-making, act as mentors and provide prompt and positive feedback so the workforce can perceive psychologically empowered. Suppose training is delivered based on the above essential styles of humble leadership. In that case, these organizations will cultivate humble leadership traits in the project managers and eventually refine the project’s aim to contribute to a worthwhile project.

Our results show that senior management support in terms of resources provision, institutional structures, coordination, skills and powers are successful activities to improve project success and insignificant for psychological empowerment. The findings can help the professionals manage the projects with well-being, so top executives might seriously view their responsibilities and ensure that project managers provide the appropriate resources. Autocratic senior management centralizes the authority system, decreasing power politics within the professional environment. When project implementation time is short, humble project managers and team members understand their roles, authorities and timeliness of project delivery that can prompt successful accomplishment. The literature indicates that autocratic senior management treats project managers and project teams to use maximum efforts and keep high performance, leading to achieving project objectives (Turner et al., 2010).

**Limitations and future research directions**

The findings are limited by the cross-sectional nature and the utilization of a single data collection. The fact that data collected from information technology projects only limits its generalizability and future studies should also consider other types of project-based organizations when studying the impact of humble leadership. We did not examine the cultural role as a moderating variable. However, we believe that cultural variation can affect project success and psychological empowerment and future studies should consider this aspect. Another possible area of research can be to study the underlying mechanism between humble leadership and project success, in the form of mediators. It would be exciting to see whether top management leads to positive results with employee psychological empowerment (Kanwal et al., 2017; Chua et al., 2012; Buyl et al., 2011).
According to Boonstra (2013), much empirical research into top management support has demonstrated its positive effects. It is unclear if autocratic top management support contributes to positive impacts such as removing power politics with a centralized authority system and task-oriented that might prompt the organizations’ reactions to swift environmental variations (De Hoogh et al., 2015). Future research will be conducted at a turning point from which the impact of an autocratic executive on project quality or other outcomes is positively affected.

Conclusions
An enhanced understanding of conditions driving project performance is essential for project-based organizations. We found that the project manager’s humility, directly and indirectly, impacts project implementation in the information technology project. We also found that psychological empowerment as a vital element of project success factor plays a mediating role in the association between humble leadership and project success and top management support’s interacting impact. Project-oriented organizations need to foster humility in the project manager, e.g. by recruitment and management development programs, as shown by past research (Qin et al., 2020; Yang et al., 2019). This will also create an operational project environment that promotes psychological empowerment activities. We believe that research will provoke potential studies on team empowerment and project success.

References


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